Hungarian section III.

Date: October 22, 1996

Country: Hungary

Name of wetland: Upper Tisa[1] between Tokaj and Záhony

Geographical coordinates: 48° 13' 25'' N 21° 48' 07'' E (center of the site)

Altitude: 94.1 m at Tokaj and 97.3 m at Záhony (as compared to the level of the Baltic Sea)

Area: 8 900 ha

Overview: The wetland is a typical flood plain between dikes which were built during the end of the 19th and the first half of the 20th centuries. The highly natural and near-natural habitats consist of large patches of soft wood riparian forests (Salicetum albae-fragilis) and hard wood riparian forests (Querqo-Ulmetum) in small patches, oxbow lakes, filled-up meanders with rich natural flora and fauna, wild or near-wild orchards and plough-lands. The wetland is natural, without significant disturbance by human activities and it has an important role as an extended "green corridor" in the movement and migration of many plant and animal groups in the region.

Wetland type: M, T, X

Ramsar Criteria: 1.c; 2.b, 2.c; 3.c

Map of site included? see Map

Name and address of compiler:

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General location: Located in the flood-plain along River Tisa, between Tokaj (544 river km) and the Hungarian-Ukrainian-Slovakian border (627 river km), in Szabolcs-Szatmár-Bereg county. The nearest towns are Záhony, Kisvárda, Nagyhalász, Ibrány, Nyíregyháza and Tokaj.

Physical features: The site is a basin of recent subsidence, made up of fluvial plains. The soil types are mixtures of Holocene fluvial sediments such as fluvial sand, floodplain mud, freshwater lime mud. The river has strong meandering and

[1] The Hungarian name of the river is Tisza

incision characteristics, with a large number of undercut steep banks. Climaticallz it is a moderately warm region with insufficient precipitation in the growing season, and with moderately dry, cold winters. The average number of hours with sunshine is 1950-2000 per year, the average temperature is 9.5-10 °C, and the average annual rainfall is 550-650 mm. The size of the catchment area is 32,782 km^2. The average difference between high and low water levels of the river is 10.25 m. The most intensive flood occurs in April (snow melting), and in June there are occasional floods "green flood" caused by heavy spring rainfall) and there is a flood between December and January. The lowest water level occurs between August and September.

Hydrological values: There are regular and heavy floods mainly in April, following snow-melting in the catchment area, and the occurrence of heavy floods in June-July and late autumn, due to intensive precipitation, is not rare either. The difference between high and low water levels is 1025 cm as maximum. Because of the high risk of flooding, a huge dike system was created in the middle of the 19th century.

The frequency and intensity of floods has an important impact on the condition of oxbow lakes in the flooded area. During the past few decades, there have been dry periods with the water level being lower than the average, and the "washing out" function of the flood could not work properly in the oxbows. As a consequence, eutrophication has been becoming more intense.

Ecological features: The types of habitats and vegetation are closely related to typical riparian land. Because of the regulation of the river course, the size and distribution of these habitats have decreased significantly during the last hundred years. However in the present situation the remaining fragments of these habitats are able to keep their basic features.

Soft-wood riparian forest (Salicetum albae-fragilis) consist of the following major tree species: Salix alba, Salix fragilis, Populus alba, P. nigra. This habitat is common in this wetland and the number, size and distribution of these habitats have an important role in the general ecological function of the wetland. The following internationally and nationally important, typical bird species breed in this habitat: Ardea cinerea, Ciconia nigra, Milvus migrans, Luscinia luscinia.

Willow bushes (Salicetum triandre): consist of Salix triandra, S. purpurea, S. fragilis, S. viminalis

Hard wood riparian forests (Querqo-Ulmetum), oxbow lakes, filled in meanders with rich natural flora and fauna, wild or near-wild orchards

Flood plain meadows (Agrostetum albae, Alopecurum pratensis)

Oxbows

Noteworthy flora: The most important values in the flora are the natural soft-wood forests (Salicetum albae-fragilis) and small patches of hard-wood (Querceto Fraxineto-Ulmetum) riparian forests, whose size and numbers allow the survival of their original flora and fauna and natural recolonization in the surrounding artificially altered areas in the flood zone. It is important to underline the numerous, large and regularly developing perpendicular riverbanks which

provide a natural breeding habitat for the largest Riparia riparia population in Europe, for mayflies (Palingenia longicaudata), and for many dragonfly species.
Protected plant species in the area:
Salix eleagnos
Iris pseudacorus
Leucojum aestivum
Leucanthemum serotinum
Nymphaea alba
Salvia natans
Nymphoides peltata

Noteworthy fauna: Because of the lack of extensive biological investigation in this area, presently we have proper data for the avifauna only.
Crex crex, 2-10 pairs in the grassland habitats
Ciconia nigra, 2-5 pairs
Aquila pomarina, 1 pair
Riparia riparia, 10,000-15,000 pairs (which make 15-25 % of the entire population in the Carpathian Basin!)
Luscinia luscinia, 6-8 pairs
Milvus migrans, 1-2 pairs
Coracias garrulus, 4-5 pairs
Merops apiaster, 10-20 pairs
Alcedo atthis, 30-40 pairs
Corvus corax, 10-15 pairs
Ardea cinerea, 100-150 pairs

Social and cultural values: The fish fauna is rich and ensures opportunity for traditional fishing. Because of the natural conditions, the area provides a unique opportunity to study both the structure and function of a riparian ecosystem, and the ecological and behavioral characteristics of both the populations and the communities of animals and plants in an undisturbed setting.
The area has a great importance in environmental education. Because of the presence of extensive and various habitats, there are many options to present, using proper methodology, the structure and function of the ecosystems both to the students and to the public without significant harm to the environment.

Land tenure / ownership:
Site:
(a) The ownership structure of the proposed site is a mixture of state, private and co-operative possessions.
Surrounding / catchment:
(b) Similarly, the ownership structures of the surrounding areas are state, private and cooperative.

Current land use:
(a) site:
Forestry, unfortunately with extended plantation of hybrid poplar.

Agriculture, mainly with fast-growing plants because of the intensive and common flooding.
Grazing and harvesting of hay
Tourism, canoe trips along the river, sand-beaches and related businesses, the creation of concentrated guest house areas, village tourism
Hunting (mainly for wild boar, pheasant, ducks and hare)
Fishing
(b) Surrounding / catchment:
Forestry, with extended plantation of hybrid poplar.
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Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects:
(a) The uncontrolled development of rest-housing, beaches and related activities threaten significantly the previously untouched areas.
The intensity of forest felling has increased since 1990. As a result, the fragmentation of the riparian forest habitats is approaching a dangerous level for the species living in that kind of habitat.
The proportion of areas with hybrid poplar plantation as compared to naturally growing riparian forests is increasing, resulting in effects similar to those of deforestation.
The increasing volume of treated sewage water and the nutrients it carries pose a potential risk for the river and its streams and oxbows.
Uncontrolled fishing activities in the oxbows; introduction of non-native fish species, overloading, littering and disturbance by anglers.
Growing and uncontrolled tourism along the river and at the beaches results in significant littering and disturbance in the formerly silent and clean habitats.
Areas between the dikes need unique conservation-based land management policy in order to achieve effective protection.
(b) Unresolved communal garbage management; there are no proper dumpsites.
Uncontrolled land management, there are no local and regional development plans with special attention to the requirements of nature conservation.

Conservation measures taken: The Tiszabercel-Tiszatelek protected area was established in 1978, and the Tokaj-Bodrogzug Landscape Protection Area (Ramsar site) in 1986. By now it has become obvious that the size and the distribution of the existing protected areas and Landscape Protection areas are not proper for the effective nature conservation of riparian habitats. Current protection measures have little possibility to limit and regulate agricultural, forestry and developmental activities. The Tiszabercel-Tiszatelek protected area is supervised by the Hortobágy National Park, and the Bodrogzug Landscape

Protection Area by the Bükk National Park, being the authority for the Landscape Protection Area.

Conservation measures proposed but not yet implemented: The "Alföld Program" of the Hungarian Government has implemented a special sub-program for River Tisa. This originates from the recognition of the essential role of the river in the structure and function of the Hungarian Lowlands and from an understanding of the high ecological values of the river and habitats along it. This program has identified the most important sites along the river with the aim of controlling further developments.

Current scientific research and facilities: Currently, there is a scientific research investigation in progress, focusing on the "Environmental changes and evolutionary responses of migrating birds" by Tibor Szép, Hungarian Ornithological Society (Hungarian Scientific Research Fund (OTKA) # F17709, (1995-1998).

Some studies are being run in an NGO framework, related to Odonata (Kossuth Lajos University, Debrecen).

Current conservation education: Szabolcs-Szatmár-Bereg county holds a leading role in nature protection education in Hungary. However in this part of the county there is no significant environmental education. There is no visitor center, nor are there publications and hides related to River Tisa and its habitats, flora and fauna. Only the Upper Tisa Foundation has a research base at Tiszabercel which can provide limited service by handing out leaflets to interested visitor groups.

Current recreation and tourism: At the present, there is very intensive and unfortunately uncontrolled canoe tourism during the summer period crowded and uncontrolled beach tourism in Dombrád, Tiszatelek, Ibrány and Gávavencsellõ, and at an increasing number of villages developing, but low-level village tourism along the river in the summer period

Jurisdiction: Hortobágy National Park, 4024 Debrecen, Sumen u. 2.

Mangement authority: Upper Tisa Water Management Authority, 4400 Nyíregyháza, Széchenyi u. 19.

References

Legány, A., Kónya, J., Vértes, I. (1977): Data on the Avifauna of the Tisa region in Szatmár-Bereg. -Tiscia, 12:131-139.

Szép, T. (1991): A Tisza magyarországi szakaszán fészkelõ partifecske (Riparia riparia (L.), 1758) állomány eloszlása és egyedszáma. (Number and Distribution of the Hungarian Sand Martin Population Breeding along the Hungarian Reaches of River Tisa) -Aquila, 98: 111-124.